

pier of masonry 40 feet high, 11 feet square at the base, and 6 at the top, and capped with heavy slabs of freestone.

“ Besides these, there are some smaller instruments, and a good mean-time chronometer by R. Molyneux : another sidereal clock is daily expected from London. We desire and hope, in time, to obtain what is necessary to make the establishment complete.”

IV. Communications respecting the Great Comet of 1845.

1. Estimated Positions of the Comet made at Nevis in the West Indies. By George Webbe, Esq. Communicated in a letter to the Secretaries.

“ *Nevis, West Indies, Jan. 12, 1845.*

“ On the evening of Sunday, the 5th instant, a large and very brilliant comet became visible here at sunset, having then first emerged from the solar rays.

“ On the evening of Monday, the 6th, I first observed it ; but being unprovided with any instrument mounted equatorially, and, indeed, having no instruments at all prepared for observation, in consequence of a change of residence, I was constrained to be satisfied with such estimated values of its position as I could best obtain. On the evening of the 6th, its near approach to δ^1 and δ^2 *Gruis* enabled me to lay down a telescopic triangle by estimation, by which I succeeded in obtaining an approximation to its place, which probably was not very erroneous. On the 7th, 8th, and 10th, I was not so fortunate, and was obliged to be satisfied with estimating its position by eye, in reference to β , θ , and ι *Gruis*. On the 9th, from its proximity to θ , I had an opportunity of making a better estimate. On the 11th, the clouds prevented any observation.

“ Although this comet will bear no comparison with the magnificent one of 1843, it is yet a very splendid object. The nucleus is large, and rather suddenly condensed, but indicates nothing like a defined termination. The tail appears homogeneous, undivided, and straight, and at present seems to be about 10° in length. From recollection, I should say, that the general appearance of this comet is fully as imposing as that of Halley’s in its most brilliant condition, if not more so.

Deduced Positions of the Comet.

Day.	Right Ascension.	South Declination.
d h m	h m	o /
Jan. 6 7	22 21.5	44 44
7 7 15	22 35.5	44 32
8 7	22 47.5	44 22
9 7 30	22 58	44 10
10 8	23 7	43 52

2. Results of Sextant Observations of Distances of the Comet from known Stars. By W. H. Simms, Esq. Extracted from a letter to W. Simms, Esq., and communicated by him.

“Colombo, Ceylon, January 15, 1845.

“A large comet has been visible here lately. I saw it on the 31st of December last, when its nucleus was about as bright as a star of the third magnitude, and the tail about 15° long, its edges being sharp and clear, and the light very equally diffused between them. I subjoin the results of a few observations with the sextant,* which I believe may be depended upon as *tolerably good*. The mode of taking the observations was to measure the comet's distances from two known and properly chosen stars, and then to calculate its place.† By observing it with several pairs of stars in the course of the same evening, I found the results to agree very well, and am, therefore, inclined to place some confidence in them.

“The following are the places of the comet observed at a house in the neighbourhood of Colombo, whose latitude and longitude are respectively about $6^\circ 54' 59''$ N.; and $80^\circ 10'$ E.

Mean Time at Greenwich, January 1845.	Comet's Right Ascension.	Comet's Declination.
d h m	h m s	° ' "
5 1 54	22 5 49	44 49 21 South
6 1 49	22 18 17	44 46 28
7 1 52	22 30 50	44 40 20
8 1 40	22 42 51	44 27 44
11 1 54	23 18 10	43 23 1

“I suppose that you will have seen the comet in Europe before this reaches you, as the declination is diminishing very fast. It is, however, rapidly decreasing in brilliancy, and just now the moon is too bright to allow of the comet being observed. I saw it, however, last night, but it was too faint to be observed with a sextant.”

3. Remarks on the Comet, by J. Robinson, Esq. Communicated by the Astronomer Royal.

The comet was seen on leaving Ichaboe on the 23d of December, 1844, and its nucleus appeared like a star of the second magnitude, with an immense tail, bearing W.S.W. by compass. It continued to be seen on every fine evening. On the 6th of January, 1845, in longitude $6^\circ 20'$ W., and latitude $8^\circ 30'$ S., it was seen in great brilliancy, the tail being vertical, and the head downwards. The length of the tail was $8^\circ 20'$. It was seen for the last time on February 2.

4. Remarks on the Comet. By J. J. Waterston, Esq. Accompanied by a Chart, marking its course among the Stars. Including also, Observations of the Comet, made at the Madras Observatory, by T. G. Taylor, Esq. Communicated by Captain Beaufort, R.N.

“Bombay, January 31, 1845.

“The new year has brought us a celestial visitor which, by its splendid appearance in our southern sky, reminds us of the great

* An instrument of 10 inches radius, reading to $10''$ by Troughton.

† It is desirable that the measures of distance should be communicated to the Society.—Sec.

comet of March 1843. There is the same disproportion between the tail and nucleus, but it is altogether on a reduced scale, the tail being only 10° long when first seen, and the nucleus shining with the brightness of a star of the fifth magnitude. The great comet of 1843, when first seen here, was visible in the midst of bright twilight, half an hour after sunset. It shone with the dull, red light of an ignited coal, and the immense tail seemed like a dense, white cloud, springing up from the horizon, sharply defined for about 20° , and in a few days it extended to 43° . After a few days, the head of the present comet could not be recognised by the naked eye, but the large tail continued to be a conspicuous object until the increasing moonlight overpowered it. After full-moon, it could still be recognised as a faint streak of light, until this evening, when it was only visible through a telescope.

"In the accompanying chart, I have traced its motion with the assistance of the *Madras Catalogue of Southern Stars*, and made two attempts to compute the parabolic elements, but the positions seem too loosely fixed to obtain them with any accuracy. The second trial ought, nevertheless, to be an approximation, as it includes a sweep of twenty-one days, and the utmost error of the observations cannot exceed $5'$.

"I have since been favoured by Mr. Taylor with a copy of his observations up to the 17th January, which I annex, but have not had time to compute an orbit from them.

*Observations of the Comet made at the Madras Observatory.**

Day.	Madras Mean Time.	Right Ascension.	North Polar Distance.
1845.	h m s	h m s	° ' "
Jan. 5	6 47 31	22 5 7	134 49 10
6	6 48 33	22 18 6	134 49 20
7	6 53 13	22 30 35	134 42 45
8	6 52 15	22 42 38	134 27 39
9	6 46 23	22 54 31	134 12 16
10	6 46 4	23 6 25	133 50 29
11	6 51 23	23 17 45	133 24 15
12	6 42 27	23 28 46	132 53 54
13	7 0 17	23 39 38	132 21 49
14	6 50 23	23 49 52	131 43 40
15	6 47 12	23 59 42	131 6 39
16	6 35 14	0 9 4	130 24 30
17	6 50 54	0 18 29	129 40 57

(Signed) T. G. TAYLOR.

* The irregularity of the differences of the North Polar Distance seems to denote that some of the results are erroneous, probably through errors of transcribing.—*Sec.*

“ These supersede the chart ; but it may still serve as a picture to shew a singular luminous appendage, which, on the evening of the 16th, I observed for the first time to proceed from the head of the comet *towards* the sun almost diametrically opposite to the proper tail. It consisted of a narrow band of faint light of about the same breadth as the head. The edges were well defined and parallel. It could be traced for 3° , and probably extended much farther, as the increasing moonlight was very unfavourable to so faint an object. Its direction and appearance, when first seen on the 16th, is shewn on the chart. Another representation of it is given, on a large scale, as it appeared on the evening of the 25th. The two tails now made an evident angle, and the space was filled with a diffused, irregular light, giving a triangular shape to the comet when seen by the naked eye. The direction of the tails, in reference to the adjacent stars, has been carefully set down on the chart. This evening the same appearance continues, but very faint, the angle at the head of the comet being about 140° . Mr. Milne, in his essay on comets, states, that in the comet of 1824, the same kind of double tail was observed. It would be interesting to know if there is any chance of their being the same. A newspaper correspondent here remarks, that there is a considerable resemblance in the elements (except the perihelion distance) to the comet of 1737 (Delambre's *Astronomy*). The comet of 1557, which is expected to return in 1848, is also not very widely different in its elements.

“ J. J. WATERSTON.”

5. Observations made at the Observatory of Georgetown, Demerara. Communicated by Lord Stanley through the Astronomer Royal.

“ *Demerara Observatory, 18th January, 1845.*

“ *Observations of the Comet.*

“ On the 26th December, 1844, about seven o'clock P.M., discovered a comet about 5° above the south-west horizon. Not having any instruments at hand except a compass, took its bearings, and found it to be about 40° south declination.

“ From this date to the 8th January, 1845, could not obtain an observation, from the density of the atmosphere.

“ On the 8th January, found, by observation, its position to be in the east wing of *Grus* or *Crane*. About 12° in an easterly direction from δ *Gruis*, and 4° distance from γ *Gruis*.

“ On the 12th January, the tail of the comet extended a little to the west of the star γ *Phenicis*, and was about 7° in length ; the nucleus was nearly in a line with the stars ϵ and γ in the same constellation, and, although not well defined, appeared equal in size to a star of the fourth magnitude.

“ On the 15th January, found, by observation, that it was going in nearly a direct line to γ *Phenicis*, and was distant about 5° from ϵ in the same constellation, bearing north.

“ On the 16th and 17th instant, its appearance was so very indistinct, that no accurate observations could be obtained ; and as